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CASE REPORT | ENDOSCOPY

Upper Gastrointestinal Bleeding due to Metastatic Endometrial Adenocarcinoma

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ABSTRACT

Upper gastrointestinal bleeding (UGIB) is a life-threatening complication and a commonly encountered diagnosis requiring hospitalization. It is defined as bleeding proximal to the ligament of Treitz with the most common cause being peptic ulcer disease. There are multiple causes of UGIB and each of them presents its own unique diagnostic and management challenges. We present a rare case of UGIB due to endometrial adenocarcinoma metastatic to the third part of the duodenum. Most common sites of metastasis from endometrial adenocarcinoma are pelvic and paraaortic lymph nodes, and it is very rare for endometrial cancer to metastasize in gastrointestinal tract and then present as UGIB.

INTRODUCTION

Upper gastrointestinal bleeding (UGIB) may present as a life-threatening condition and is defined as bleeding proximal to the ligament of Treitz. Peptic ulcer disease is the most common cause of UGIB with other less common causes being Mallory-Weiss tears, gastritis, esophagitis, Dieulafoy lesions, gastroesophageal varices, and malignancy.[1–3] Endometrial cancer typically metastasizes by lymphatic spread into the genitourinary tract, and it spreads sporadically into the gastrointestinal (GI) tract. We present a rare case of UGIB secondary to a metastatic endometrial adenocarcinoma in the duodenum.

CASE REPORT

A 77-year-old woman presented with complaints of generalized weakness and dizziness. Her medical history included hypertension, coronary artery disease, congestive heart failure, and endometrial adenocarcinoma. Her cancer was diagnosed 5 years before her admission with these symptoms. She was initially treated with total abdominal hysterectomy with bilateral salpingo-oophorectomy and bilateral lymph node dissection. Pathology revealed stage 1A, grade 1 endometrial adenocarcinoma. After surgery, she received adjuvant chemotherapy and radiation therapy. Almost 2 years later, she had a recurrence of retroperitoneal lymphadenopathy. Over the following 14 months, she received megestrol acetate followed by anastrozole with no noticeable improvement in retroperitoneal lymphadenopathy. Eventually, she responded to pegylated liposomal doxorubicin, which led to a regression of retroperitoneal lymphadenopathy over a period of 1 year. Soon after, she presented to the hospital with complaints of dizziness and generalized weakness. She had melanotic stools for a month before this admission and had fallen several times because of dizziness. Significant laboratory studies on presentation were hemoglobin of 5.8 g/dL, hematocrit of 19%, red blood cell count (RBC) of 1.83 $\times$ 106/μL, blood urea nitrogen of 54 mg/dL, and creatinine of 1.3 mg/dL.

She was resuscitated with 5 units of RBC transfusion. Esophagogastroduodenoscopy (EGD) revealed a mass in the third part of the duodenum oozing blood (Figure 1). An attempt was made to control the bleeding with a 1:10,000 epinephrine injection into the mass, but this was unsuccessful. While awaiting pathology results from EGD, abdominal and pelvic computed tomography (CT) revealed a 3.3 $\times$ 2.4 $\times$ 2.0 cm mass in the aortocaval region that was similar in size and location to the mass seen 3 months before admission

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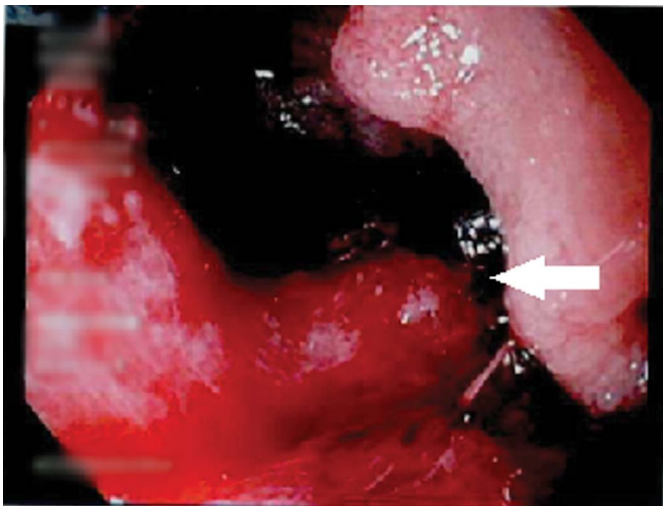

Figure 1. Esophagogastroduodenoscopy showing mass (arrow) in third part of duodenum oozing blood.

(Figure 2). Because of persistent slow bleeding, gastroduodenal artery embolization was performed. A biopsy of the duodenal mass showed that it was a well-differentiated adenocarcinoma involving muscularis propria and mucosa, with features that were most consistent with metastatic endometroid adenocarcinoma (Figure 3). Immunohistochemistry returned positive for cytokeratin 7 (CK7), vimentin, and PAX8 and negative for estrogen receptor (ER), CK20, and CDX2 (Figure 4).

She received 2000 cGy in 200 cGy fractions to this mass. After completing radiation therapy, she showed some improvement in bleeding. Over the next 3 months, she required 1 unit of RBC transfusion on 2 occasions. A repeat EGD performed 4 months after discharge showed a persistent mass similar in size that continued to ooze. Follow-up abdominal and pelvic CT (performed after the second EGD) revealed a persistent mass and worsening metastatic disease into the liver and lumbar spine as well as a pathologic fracture of the L3 vertebral body. At this time, the patient opted for hospice care, because the pain and overall decline in her health were quite debilitating.

DISCUSSION

Endometrial cancer is the fourth most common cancer in women in the United States.[4] The most common sites for metastasis or recurrence in endometrial cancer are the pelvic and paraaortic lymph nodes.[4,5] Other typical sites for endometrial cancer metastasis are—in descending order of frequency—the cervix, vagina, peritoneum, or lungs. Our patient was diagnosed with endometrial carcinoma, and 5 years later, she presented with UGIB from endometrial carcinoma metastatic to the duodenum.

Metastatic disease is extremely rare in the small intestine with few reports describing endometrial cancers invading the duodenum. The tumor spreads through lymphatic route and may reach the duodenum and present as GI bleeding. EGD is the ideal diagnostic modality, but the mass may also be seen on a CT scan. Pinto et al. used a scintigraphic study with 99mTc-marked RBCs to locate the site of GI bleed.[6] If EGD is not available and bleeding is brisk enough, CT angiography can be used to locate the source of bleeding. Tsai et al. performed an EGD revealing a duodenal mass whereas endoscopic ultrasound revealed invasion of the muscularis propria.[7] Hyunh et al reported an incidental mass noticed on magnetic resonance imaging of the spine done for back pain.[8] Subsequent positron emission tomography and abdominal and pelvic CT showed a hypermetabolic mass involving the duodenum and inferior vena cava. Endoscopic biopsy confirmed metastatic endometrial cancer invading the duodenum.

Tsai et al. illustrated a good outcome in a patient with metastatic endometrial cancer in the duodenum after surgery.[7] Palliative chemotherapy was used by Leitão et al, but palliative surgery was preferred in reports by Huynh et al and Schneider et al.[8–10] However, the prognosis has been dismal. Treatment modalities for such a duodenal mass include palliative irradiation, chemotherapy, and hormonal therapy but clinicians should primarily treat for symptomatic relief.

In conclusion, we present a rare etiology of UGIB from metastatic endometrial cancer in the duodenum. Endometrial carcinomas rarely spread into the GI tract, particularly

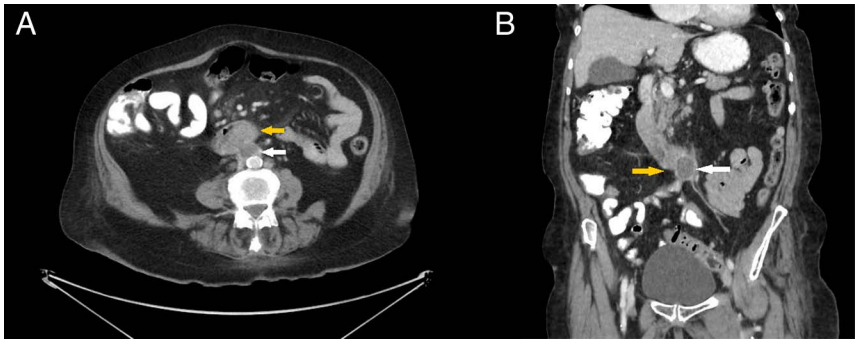

Figure 2. (A) Axial and (B) coronal abdominal and pelvic computed tomography showing a well-defined hypodense lesion with peripheral rim enhancement (white arrow) in the retroperitoneum, infiltrating third part of duodenum (yellow arrow) with adjacent asymmetric duodenal wall thickening.

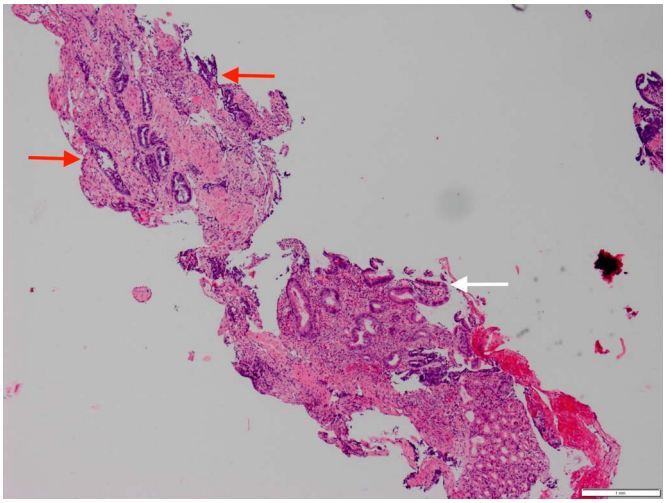

Figure 3. Hematoxylin and eosin stain showing endometrial carcinoma (red arrow) invading the duodenal mucosa (white arrow).

to the small intestine. Thus, a high index of suspicion is warranted in this diagnosis. EGD is the most appropriate diagnostic modality, but scintigraphic study with 99mTc-marked RBCs and CT angiography may be used to locate the bleeding as well. Abdominal CT and/or positron emission tomography must be performed prior to determine the extent of metastasis. Overall prognosis of patients with such metastatic endometrial cancer is poor and the patient should be treated with a palliative approach to manage continuous bleeding and intestinal obstruction from the metastatic mass.

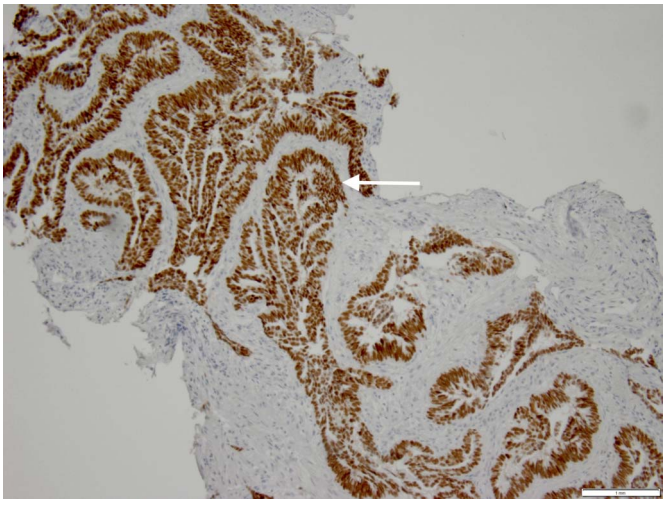

Figure 4. Immunohistochemistry of the duodenal mass positive for PAX8.

DISCLOSURES

Author contributions: T. Singh reviewed the literature, wrote the manuscript, and is the article guarantor. D. Gandhi reviewed the radiology images and wrote the manuscript. T. Arora reviewed the literature and wrote the manuscript. J. Shapiro reviewed the histopathology and immunohistochemistry slides.

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